

**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: ANDY KASHNIKOW Examiner #: 60484 Date: 11/1/02  
Art Unit: 3700 Phone Number 308-1137 Serial Number: 09 919,750  
Mail Box and Bldg/Room Location: CP2-2A01 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

LIT SEARCH FOR US PATENT  
No. 5,931,855

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**STAFF USE ONLY**

|   | Type of Search        | Vendors and cost where applicable |
|---|-----------------------|-----------------------------------|
| Searcher: <u>Solomon</u>                | NA Sequence (#) _____ | STN _____                         |
| Searcher Phone #: <u>305-5932</u>       | AA Sequence (#) _____ | Dialog _____                      |
| Searcher Location: <u>CP2 2C08</u>      | Structure (#) _____   | <u>Questel/Orbit</u>              |
| Date Searcher Picked Up: <u>11-4-02</u> | Bibliographic _____   | Dr.Link _____                     |
| Date Completed: <u>11-4-02</u>          | Litigation <u>✓</u>   | <u>Lexis/Nexis</u>                |
| Searcher Prep & Review Time: <u>7</u>   | Fulltext _____        | Sequence Systems _____            |
| Clerical Prep Time: _____               | Patent Family _____   | WWW/Internet _____                |
| Online Time: <u>4</u>                   | Other _____           | Other (specify) _____             |

(C) QUESTEL 1994  
QUESTEL.ORBIT (TM) 1998

**\*\* SS 1: Results 1**

1 / 1 PLUSPAT - @QUESTEL-ORBIT - image  
PN - US5931855 A 19990803 [US5931855]  
TI - (A) Surgical methods using one-way suture  
PA - (A) HOFFMAN FRANK (US)  
IN - (A) BUNCKE HARRY J (US)  
AP - US85988797 19970521 [1997US-0859887]  
PR - US85988797 19970521 [1997US-0859887]  
IC - (A) A61B-017/04  
EC - A61B-017/06S  
A61B-017/064  
ICO - K61B-017/04A7  
K61B-017/06A3  
K61B-017/06D  
K61B-019/00G2  
PCL - ORIGINAL (O) : 606228000; CROSS-REFERENCE (X) : 606215000  
606216000 606224000  
DT - Corresponding document  
CT - US3123077; US5123913; US5222976; US5425746; US5425747; US5450860;  
US5584859  
H. Han, et al. "Mating and Piercing Micromechanical Structures for  
Surface Bonding Applications".  
  
Micro ElectroMechanical Systems (MEMS-91), Jan. 31--Feb. 2, 1991,  
CH2957-Sep. 1991, pp. 253-258, 1991.  
  
H. Buncke, et al. "The Suture Repair of One-Millimeter Vessels".  
Micro-Vascular Surgery, pp. 24-35 (esp. p. 34), 1966.  
STG - (A) United States patent  
AB - Methods are disclosed for binding together human or animal tissue  
using one-way sutures having barbs on their exterior surfaces,  
allowing passage of a needle-drawn suture in one direction through  
tissue, but not in the opposite direction. In closing a wound,  
the sutures are passed through tissue at each of the opposed sides  
of the wound, forming suture pairs in which trailing ends of the  
sutures are juxtaposed in the wound. The number of suture pairs is  
selected in accordance with the size of the wound. The wound is  
closed and ends of the sutures of each suture pair are secured  
together, which may be by heat bonding or surgical knots. In a  
variation of this procedure double-armed sutures are used. In  
another variation detachable needles are used to leave the barbed  
sutures below the skin. The invention avoids loop stitching,  
minimizing scarring. In addition to wounds at the skin surface,  
the method is useful in binding together severed tendons or other  
internal tissue of a patient, providing considerable tensile  
strength with a minimum of suturing and locating the tensile  
support precisely where needed. In facelifts and other cosmetic  
operations, the sutures are used to provide lines of tissue  
support beneath the skin.

1 / 1 LGST - @LEGSTAT  
PN - US 5931855 [US5931855]  
AP - US 859887/97 19970521 [1997US-0859887]  
DT - US-P  
ACT - 19970521 US/AE-A  
APPLICATION DATA (PATENT)  
US 859887/97 19970521 [1997US-0859887]

19990803 US/A  
PATENT

20020806 US/RF  
REISSUE APPLICATION FILED  
20010731

UP - 2002-35

1 / 1 CRXX - ©CLAIMS/RRX  
PN - 5,931,855 A 19990803 [US5931855]  
PA - Hoffman Frank  
ACT - 20010731 REISSUE REQUESTED  
ISSUE DATE OF O.G.: 20020806  
REISSUE REQUEST NUMBER: 09/919750  
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 3731

Reissue Patent Number:

1 / 1 PAST - ©Thomson Derwent  
AN - 200232-001616  
PN - 5931855 A [US5931855]  
OG - 2002-08-06  
ACT - REISSUE APPLICATION FILED

Selected file: INPADO

**\*\* SS 1: Results 7**

1 / 7 INPADO - ©INPADO  
PN - AU 743056 B2 20020117 [AU-743056]  
TI - SURGICAL METHODS USING ONE-WAY SUTURE  
IN - BUNCKE HARRY J  
PA - HARRY J BUNCKE  
AP - AU 75900/98-A 19980521 [1998AU-0075900]  
PR - US 859887/97-A 19970521 [1997US-0859887]  
WO 9810478/98(US)-W 19980521 [1998WO-US10478]  
IC - A61B-017/04

2 / 7 INPADO - ©INPADO  
PN - AU 75900/98 A1 19981211 [AU9875900]  
TI - SURGICAL METHODS USING ONE-WAY SUTURE  
IN - BUNCKE HARRY J  
PA - BUNCKE HARRY J  
AP - AU 75900/98-A 19980521 [1998AU-0075900]  
PR - US 859887/97-A 19970521 [1997US-0859887]  
WO 9810478/98(US)-W 19980521 [1998WO-US10478]  
IC - A61B-017/04

3 / 7 INPADO - ©INPADO  
PN - EP 991359 A1 20000412 [EP-991359]  
TI - SURGICAL METHODS USING ONE-WAY SUTURE  
LA - ENG  
IN - BUNCKE HARRY J [US]  
PA - BUNCKE HARRY J [US]  
AP - EP 98923664/98-A 19980521 [1998EP-0923664]  
PR - WO 9810478/98(US)-W 19980521 [1998WO-US10478]

US 859887/97-A 19970521 [1997US-0859887]  
IC - A61B-017/04  
DS - AT\* CH\* DE\* DK\* FI\* FR\* GB\* IE\* IT\* LI\* NL\* SE\*

1 / 1 LEGALI - @LEGSTAT  
PN - EP 991359 [EP-991359]  
AP - EP 98923664/98 19980521 [1998EP-0923664]  
DT - EP-P  
ACTE - 19980521 EP/AE-A  
EP-APPLICATION  
EP 98923664/98 19980521 [1998EP-0923664]

20000412 EP/AK-A1 [+]  
DESIGNATED CONTRACTING STATES IN AN APPLICATION WITH SEARCH  
REPORT:  
AT CH DE DK FI FR GB IE IT LI NL SE

20000412 EP/A1 [+]  
PUBLICATION OF APPLICATION WITH SEARCH REPORT

20000412 EP/17P [+]  
REQUEST FOR EXAMINATION FILED  
19991221

20010801 EP/RIC1  
CLASSIFICATION (CORRECTION)  
7A 61B 17/04 A, 7A 61B 17/06 B

20010808 EP/AK-A4 [+]  
DESIGNATED CONTRACTING STATES MENTIONED IN A SUPPLEMENTARY SEARCH  
REPORT:  
AT CH DE DK FI FR GB IE IT LI NL SE

20010808 EP/A4 [+]  
SUPPLEMENTARY SEARCH REPORT  
20010622

UP - 2001-32

4 / 7 INPADOC - @INPADOC  
PN - EP 991359 A4 20010808 [EP-991359]  
TI - SURGICAL METHODS USING ONE-WAY SUTURE  
LA - ENG  
IN - BUNCKE HARRY J [US]  
PA - BUNCKE HARRY J [US]  
AP - EP 98923664/98-A 19980521 [1998EP-0923664]  
PR - WO 9810478/98(US)-W 19980521 [1998WO-US10478]  
US 859887/97-A 19970521 [1997US-0859887]  
IC - A61B-017/04; A61B-017/06  
DS - AT\* CH\* DE\* DK\* FI\* FR\* GB\* IE\* IT\* LI\* NL\* SE\*

1 / 1 LEGALI - @LEGSTAT  
PN - EP 991359 [EP-991359]  
AP - EP 98923664/98 19980521 [1998EP-0923664]  
DT - EP-P  
ACTE - 19980521 EP/AE-A  
EP-APPLICATION  
EP 98923664/98 19980521 [1998EP-0923664]

20000412 EP/AK-A1 [+]  
DESIGNATED CONTRACTING STATES IN AN APPLICATION WITH SEARCH

REPORT:  
AT CH DE DK FI FR GB IE IT LI NL SE

20000412 EP/A1 [+]  
PUBLICATION OF APPLICATION WITH SEARCH REPORT

20000412 EP/17P [+]  
REQUEST FOR EXAMINATION FILED  
19991221

20010801 EP/RIC1  
CLASSIFICATION (CORRECTION)  
7A 61B 17/04 A, 7A 61B 17/06 B

20010808 EP/AK-A4 [+]  
DESIGNATED CONTRACTING STATES MENTIONED IN A SUPPLEMENTARY SEARCH  
REPORT:  
AT CH DE DK FI FR GB IE IT LI NL SE

20010808 EP/A4 [+]  
SUPPLEMENTARY SEARCH REPORT  
20010622

UP - 2001-32

5 / 7 INPADOC - @INPADOC

PN - NZ 501224 A 20020301 [NZ-501224]  
TI - A ONE-WAY SUTURE HAVING BARBS ON THEIR EXTERIOR SURFACES AND A  
NEEDLE ON ONE OR BOTH ENDS HAVING THE CAPABILITY OF PUTTING TENSION  
IN THE TISSUE WHEN TENSION IS PLACED ON THE TRAILING END OF THE  
SUTURE  
IN - BUNCKE HARRY J  
PA - HARRY J BUNCKE  
AP - NZ 501224/98-A 19980521 [1998NZ-0501224]  
PR - US 859887/97-A 19970521 [1997US-0859887]  
WO 9810478/98 (US)-W 19980521 [1998WO-US10478]  
IC - A61B-017/06

6 / 7 INPADOC - @INPADOC

PN - US 5931855 A 19990803 [US5931855]  
TI - SURGICAL METHODS USING ONE-WAY SUTURE  
IN - BUNCKE HARRY J [US]  
PA - HOFFMAN FRANK [US]  
AP - US 859887/97-A 19970521 [1997US-0859887]  
PR - US 859887/97-A 19970521 [1997US-0859887]  
IC - A61B-017/04

1 / 1 LEGALI - @LEGSTAT

PN - US 5931855 [US5931855]  
AP - US 859887/97 19970521 [1997US-0859887]  
DT - US-P  
ACTE - 19970521 US/AE-A  
APPLICATION DATA (PATENT)  
US 859887/97 19970521 [1997US-0859887]

19990803 US/A  
PATENT

20020806 US/RF  
REISSUE APPLICATION FILED  
20010731

UP - 2002-35

7 / 7 INPADO - @INPADO

PN - WO 9852473 A1 19981126 [WO9852473]  
TI - SURGICAL METHODS USING ONE-WAY SUTURE  
LA - ENG  
IN - BUNCKE HARRY J [US]  
PA - BUNCKE HARRY J [US]  
AP - WO 9810478/98(US)-A 19980521 [1998WO-US10478]  
PR - US 859887/97-A 19970521 [1997US-0859887]  
IC - A61B-017/04  
DS - AU\* BR\* CA\* JP\* MX\* NZ\* AT BE CH CY DE DK ES FI FR GB GR IE IT LU  
MC NL PT SE

1 / 2 LEGALI - @LEGSTAT

PN - CA 2290533 [CA2290533]  
DT - CA-P  
ACTE - 19991122 CA/REFW-P  
CORRESPONDS TO PCT APPLICATION  
<WO 9852473> [WO9852473]  
UP - 2000-42

2 / 2 LEGALI - @LEGSTAT

PN - WO 9852473 [WO9852473]  
AP - WO 9810478/98(US) 19980521 [1998WO-US10478]  
DT - WO-P  
ACTE - 19980521 WO/AE-A  
APPLICATION DATA  
WO 9810478/98(US) 19980521 [1998WO-US10478]

19981126 WO/AK-A1 [+]  
DESIGNATED STATES CITED IN A PUBLISHED APPLICATION WITH SEARCH  
REPORT  
AU BR CA JP MX NZ

19981126 WO/AL-A1 [+]  
DESIGNATED COUNTRIES FOR REGIONAL PATENTS CITED IN A PUBLISHED  
APPLICATION WITH SEARCH REPORT  
AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

19981126 WO/A1 [+]  
PUBLICATION OF THE INTERNATIONAL APPLICATION WITH THE  
INTERNATIONAL SEARCH REPORT

19990304 WO/DFPE  
REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF  
19TH MONTH FROM PRIORITY DATE

19990414 WO/121  
EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN  
THIS APPLICATION

19991122 WO/ENP-AA  
ENTRY INTO THE NATIONAL PHASE IN:  
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20000303 WO/NENP  
NON-ENTRY INTO THE NATIONAL PHASE IN:  
JP 1998550664  
<JP>

UP - 2000-42

Session finished: 04 NOV 2002 Time 16:18:54

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5931855

August 3, 1999

Surgical methods using one-way suture

REISSUE: July 31, 2001 - Reissue Application filed Ex. Gp.: 3731; Re. S.N.  
09/919,750 August 6, 2002

APPL-NO: 859887 (08)

FILED-DATE: May 21, 1997

GRANTED-DATE: August 3, 1999

ENGLISH-ABST:

Methods are disclosed for binding together human or animal tissue using one-way sutures having barbs on their exterior surfaces, allowing passage of a needle-drawn suture in one direction through tissue, but not in the opposite direction. In closing a wound, the sutures are passed through tissue at each of the opposed sides of the wound, forming suture pairs in which trailing ends of the sutures are juxtaposed in the wound. The number of suture pairs is selected in accordance with the size of the wound. The wound is closed and ends of the sutures of each suture pair are secured together, which may be by heat bonding or surgical knots. In a variation of this procedure double-armed sutures are used. In another variation detachable needles are used to leave the barbed sutures below the skin. The invention avoids loop stitching, minimizing scarring. In addition to wounds at the skin surface, the method is useful in binding together severed tendons or other internal tissue of a patient, providing considerable tensile strength with a minimum of suturing and locating the tensile support precisely where needed. In facelifts and other cosmetic operations, the sutures are used to provide lines of tissue support beneath the skin.